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THE
HYDRAULIC PRINCIPLE
OF
CLEANSING FABRICS.

BY
J. ROBERTS.

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PREFACE.

In placing this pamphlet in the hands of the public it devolves upon me to make a few explanatory remarks, which shall be as brief as possible. Having from boyhood been educated, theoretically and practically, in the Art of Bleaching and extracting from linen and other fibrous materials, the natural vegetable matter, and acquired discoloration; also being a practical mechanic, and having a special knowledge of the of extensive laundries and their machinery; I feel competent to judge the merits of all devices and principles used for such purposes.

Upon first introducing to the public one of the devices known as Washboiler Fountains, I was cognizant of the fact that the principle was correct; having years before used it in the Bleachery—on a mammoth scale—in what is known as a “boiling keer;” into which was placed from 6,000 to 10,000 yards of goods at a time. This was done to remove the vegetable matter BEFORE entering the chemical solutions, and AFTERWARDS, to remove all trace of the chemicals; which would otherwise destroy the goods.

What at first seemed strange to me—knowing what could be accomplished with steam and boiling fluids, without the slightest injury to the most delicate fabrics—was the deep-rooted prejudice of housekeepers, against all innovations upon the old method of doing the family washing; to make matters worse, many similar devices had already been offered for sale; but all had failed. Why? was a problem which did not take long to solve. I investigated; and soon discovered to my utter astonishment, that neither sellers, manufacturers, nor inventors, knew how to use the articles themselves; much less teach others. I found that the erroneous idea of cleansing by steam alone; prevailed in all minds: That is, they used but a small quantity of water in the boiler, and a great deal of soap; converting it all into steam and lather. What was the result? They rotted and discolored the clothes, and people threw them aside in disgust. I saw at once that the public must necessarily be INSTRUCTED in the ART OF CLEANING FABRICS—a herculean task—but had I abandoned it, as others had before me, Wash-boiler Fountains would now be among the things of the past. Instead, like wringers and Sewing Machines, they are becoming a household necessity. In my eight years experience with these washers I have discovered many difficulties.

The point upon which I have labored the hardest of all, has been to produce a superior washer at the same or less cost. I have succeeded beyond my most sanguine expectations; and the result, is the Perfect Washer. In it, I believe I have left nothing to be accomplished. The pamphlet will speak for itself: That it has been successful, is asserted by the fact that upwards of ONE HUNDRED THOUSAND of these washers have been sold by it alone. Believing that the public will not fail to appreciate the situation, I am

Respectfully,

J. BOBERTS.

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UNRECORDED

THE
PHILOSOPHY
OF THE
ROBERTS PERFECT WASHER,
BLEACHING EXPLAINED
and
QUESTIONS ANSWERED.

It is important at the start, to recognize the fact that there is really an *art* in the cleansing of fabrics. There are few—even among those who make it a business—who can readily explain the principle upon which they do the cleansing. The numerous mechanical contrivances have all failed; they either do not cleanse, or they wear out the clothes faster than the rubbing board; and it is harder work to operate them than to do the rubbing. Again they consume entirely the time of a person during the whole operation.

By adopting the hydraulic principle of washing as embodied in the Roberts Perfect Washer, you can wash quickly, thoroughly, without labor, and avoid entirely, all wear and tear; and at the same time be at liberty to do other work about the house. The fire will do both the washing and baking, at one and the same time.

I wish to impress upon your minds that mechanical devices must keep the clothes in motion to force water through them. By the hydraulic principle, the clothes remain intact, while the water is kept in motion and forced through them. Ask

WHAT DOES THE CLEANSING.

and invariably your answer will be, "plenty of rubbing," well so it is; you rub on the soap, then rub it well in to soften the dirt; then you dip and rub and rub and d'p, to *force water* through the fabric, to carry away the dirt, after being softened by the soap. Now please bear in mind that

BLEACHING.

Much is said yet little understood about the term "bleaching." As used by the housewife it simply implies *thorough cleansing*. Ask why she *boils* her clothe, and her answer will be: "To *bleach* them;" properly speaking she should say, "To *cleanse* them;" she has not stopped to consider that the simple operation of *slightly scalding*—for she cannot boil them—takes out the dirt and discoloration which hours of laborious rubbing on the washboard has failed to remove, yet such is the fact.

Now, try the *hydraulic principle* of cleansing for ten or fifteen minutes, upon a boiler full of clothes, which you have almost exhausted yourself in rubbing; after taking them out, examine the suds, and you will be astounded at the result; rinse and hang them beside others washed the old way, and see the "bleaching" they have undergone, and yet they have not been bleached, only cleansed. Those goods were white as snow when you purchased them; made so by a professional bleacher: few of whom there are in the United States.

The proper application of the term bleaching implies the art of extracting vegetable matter or other natural discoloration from textile fabrics. The process of bleaching requires constant care and watchfulness. A single moment lost may destroy everything. You will see the force of these remarks when the process is detailed.

To illustrate we will take linen, the most difficult of all fibres to bleach. The goods to be bleached are first subjected to the *boiling process*—where the hydraulic principle is used on a large scale—in a strong alkaline solution, this continues from six to eight hours, according to the texture of the goods. Out of this they are thoroughly rinsed, first through warm and then cold water. They then pass into a solution of chloride of lime; which process is also carried on at a high temperature in order to *expand* the *fabric*, so that the *inside* as well as the *outside* can be bleached; here the goods are kept in motion mechanically, at least once in ten to fifteen minutes; this admits of atmospheric action upon the goods; without which in some form, nothing can be either cleansed, bleached or dyed. At the proper time they are taken from this rinsed through cold water, and again boiled in good soap and water to extract all traces of bleaching matter. From this they pass into a solution of sulphuric acid, in which they remain several hours; when taken out they are well rinsed, and again put through the *boiling process* in good soap and water; from this they are well rinsed again and come out as white as snow, ready to finish for the market.

Can those goods again absorb and *fix* all their natural discolorations? No, impossible. Then why do they become yellow and discolored? There are various reasons: first, poor soap and hard water; second, careless or incompetent washer-women; third, lack of strength to do the rubbing.

But the chief reason is—and this little pamphlet has been impressing upon your mind all the way through, that you cannot use water by hand, which is hot enough to soften and expand the fabric to that extent which is absolutely necessary, to thoroughly extract the dirt and discoloration.

A combination of boiling water, good soap and a rapid circulation or water force, is what is required to *thoroughly cleanse* (not "bleach") your clothes. A second process of bleaching would ruin them.

The Roberts Perfect Washer will cleanse them every time. Try it and you will never regret the trifling outlay.

The foregoing furnishes as lucid an explanation as possible, of the hydraulic principle of cleansing fabrics, also of the functions of the Roberts Perfect Washer. Yet, the following are anticipated :

QUESTIONS.

Q. Can you wash flannels?

A. Yes but bear in mind, very little soap should be used in washing flannels. Woolens are fulled and felted by the application of soap in a machine known as a fulling mill; in which they are continuously pounded till they are as firm and heavy as required. Flannels become thick and hard by the use of too much soap, and improper handling. To wash them properly, they should be kept at a high temperature from first to last. Sudden changes from hot to cold water, contracts the fibre and causes them to shrink: Any FULLER of woolens will tell you this. Flannels never should be wrung. Wringing acts to a certain extent like the *Fulling Mill*: and when continued from time to time, makes them hard. They should be hung up directly out of the water, and in a warm place. If you would always have your flannels soft and beautiful, adopt the following rule, viz: use but little soap. Wash and *rinse in hot water*. Do not wring them. Dry in a warm atmosphere.

Q. Will this process destroy colors?

A. Fugitive prints will part with their colors by this or any other process: but fixed colors will not only be uninjured, but benefited by it. Colors are originally *set* by a process of boiling: and by this process of washing they are *thoroughly cleansed*; which makes them look bright and new. If you have any calicos—with fixed colors—which are old and dingy just try this process. The result will astonish you. This must always be borne in mind when washing calicos never use *strong* soap or alkalies. Acid forms the base of many prints, and other colored fabrics, and is frequently destroyed by the use of alkalies: This releases the colors. English Scarlets—the most durable colors known—will never fade when properly washed, nor even in the sun, but are frequently ruined by *STRONG* soaps.

Q. What causes a scum to rise on the water when the soap is put in?

A. A chemical change has taken place a saline condition of the water kills the alkali in the soap and releases the fatty substance which rises to the surface. You cannot wash with *hard water* by any known process. You must add either borax or Sal-soda till you overcome the natural condition of the water (make it perfectly soft) then put in the soap, *not before*. Always use rain water when it can be had.

[It is not to be wondered at that people are incredulous at the first sight of the washer, when we consider the innumerable expensive and cumbersome devices, which have proved worthless: and they naturally ask:]

Q. How can such a thing wash clothes?

A. Several years ago a gentleman writing to me about this principle said "I must own that when I saw the washer I was utterly incredulous as to its cleansing powers: my family were still more so. In fact they had no faith in washers of any kind; but being strongly urged by a friend who had used one successfully, I concluded to try one. We made the first trial with a good many misgivings. In fact *I could not see how so simple a thing could* wash clothing. But when I saw the water pouring from the discharge pipe at the rate of eight or ten gallons per minute, and when I reflected that THIS AMOUNT OF WATER MUST PASS THROUGH THE CLOTHES TWENTY OR THIRTY TIMES in the course of an ordinary wash, my doubts began to give way. I saw there was both philosophy and common sense in the principle, and that it was impossible for it NOT to prove effective. I am now a firm believer in it and trust it will find the place it deserves in every household."

The above facts are worthy a place in the minds of all housekeepers, whether they adopt the hydraulic principle or not.

READ THIS

YOU MAY BE INDUCED TO INVEST \$1.50 FOR THE CELEBRATED

ROBERTS PERFECT WASHER.

It is the best washer in the world. So acknowledged by all who have used or seen it. It does away with the **Rubbing Board**, saves time and wear and tear of clothes, cleanses thoroughly, and **bleaches perfectly**. Will work in any kind of boiler or the old-fashioned wash-pot.

THE ORIGINAL PATENT

of the BROAD PRINCIPLE embodied in this washer bears date Nov. 19, 1864. The improvements cover an entirely new principle of developing force at the bottom of a washboiler, and are pronounced by the United States Patent Office, after a continuous examination of nearly one year, unlike anything ever before shown. Every claim was therefore allowed. Specifications filed April 1, 1880, and patent granted Feb. 15, 1881.

The inventor is undoubtedly the best informed man on this subject to be found. Being a PROFESSIONAL BLEACHER, and skilled mechanic, and having had experience in handling every known device for cleansing purposes used in laundries. He has spent the last eight years in manufacturing, selling, and improving the HYDRAULIC PRINCIPLES of washers; also in educating the people up to the use of this principle, and has DISCOVERED and SURMOUNTED all the difficulties met with in other devices. Therefore he feels competent to judge, and stands ready to meet upon these grounds all who may present themselves. This company is regularly incorporated under the state laws of New York. We have purchased the patent, and

OUR TERRITORY

IS OPEN. WE WANT ACTIVE, ENERGETIC AGENTS BY THE HUNDRED, to whom we will secure territory by certificate. We can offer inducements such as have never been given to agents heretofore by any concern on this Continent.

We employ skilled mechanics, and manufacture all of our own goods, and shall be constantly producing new inventions for household use, several of which we now have in different stages of perfection, and which will be covered by Patents.

AGENTS

are frequently prevented from selling goods because their terms are made public. Some people do not consider the labors of an agent, and try to beat down the fixed price of an article, deferring from time to time the purchase thereof, thus increasing the labor and cost of selling. Consequently

OUR TERMS TO AGENTS

will be considered strictly private, and sent only to those ordering a TRIAL WASHER.

This Washer has never been sold for less than \$3. But bear in mind we have COME INTO THE FIELD TO STAY and do business, and will send a

TRIAL WASHER

PREPAID to any part of these United States on receipt of

ONLY \$1.50.

It will save you that the first day's work you do with it. Who would be without one?

OUR REFERENCES

are good goods, promptly filled orders, and the New York County National Bank of this city.

CASH MUST ACCOMPANY ALL ORDERS.

Remit by Post Office money order, registered letter or draft on New York. Write your own address plainly to the

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